

Remarks:

Status of the Claims

Claims 1-10 were rejected in the Office Action mailed September 29, 2008. Claims 1-10 are objected to. Claims 1 through 9 are amended herein. Claim 10 is cancelled herein. Claims 11-16 are added herein. Claims 1-9 and 11-16 are now pending in the application.

Other amendments have been made to clarify the subject matter of the claims. No new matter has been added.

The Claims

Claim Objection

Claims 1-10 were objected to because the claims are generally narrative and indefinite, failing to conform with current U.S. practice. According to the Examiner, they appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. Applicant has amended the claims to conform to US practice.

Claims 3, 6, 7, and 8 were objected to under 35 CFR 112, second paragraph for antecedent basis problems (e.g., Claim 3 recites the limitations “the control flow graph” and “the program” in claim, for which the Examiner indicated that there is insufficient antecedent basis.). These claims have been amended to more clearly recite the subject matter of the invention. Applicants posit that as amended the claims meet the requirements of 35 USC 112, second paragraph. Accordingly, Applicants respectfully request withdrawal of the objection.

Claims 6-8 and 10 were objected to under 37 C.F.R. 1.75(c) as being in improper form because a multiple dependent claim. Applicants have amended these claims to remove any improper multiple dependencies. Accordingly, Applicants respectfully request withdrawal of the objection.

35 USC 101

Claim 10 was rejected under 35 USC 101 as being directed to non-statutory subject matter. Claim 10 has been cancelled herein. Accordingly the rejection of Claim 10 is now moot. Applicants have introduced new claims 11 through 14 modeled loosely on Claim 10 and Claims 1 and 2. The new claims clearly recite a computer readable storage medium. Accordingly, Claims 11 through 14 do not fall under the rejection of Claim 10 if it were applied thereto.

35 USC 102

Claims 1-6, 8-10 are rejected under 35 USC 102(b) as being anticipated by Bres et al (EP0606802, hereinafter “Bres”). Applicants traverse the rejection to the extent that Examiner deems the rejection applicable to these claims after the amendments made herein.

The Examiner cited Bres, Page 5, Lines 32-34 and Bres, Page 6, Lines 12-17 against Claim 1, and additionally Bres, Page 7, Lines 5-14, against Claim 2. A brief summary of the claimed method and the method disclosed in Bres may be helpful in understanding the respective methods and that these methods are quite different from one another.

The applicants address a problem of verifying the correct execution order of a program by inserting directives into the program. These directives correspond to beacons and beacon functions. Beacons are indicative of a particular location in a program having been executed. By storing a sequence of beacons being passed during the execution and comparing the stored sequence an execution path may be verified by comparing to a known permitted sequence. Thus, if the sequence is perturbed somehow, the execution sequence may not match the known permitted sequence and an error in execution may be flagged.

Bres also deals with execution order. However, this is where the similarity between Bres and the claimed invention ends. In Bres, “each lawful path in the software [is] associated with a [reference signature] when [] the software [is compiled.]” (the many edits in the quote above is due to the exceptionally poor English in Bres; Bres appears to be a machine translation from French and is barely comprehensible.). Bres, Page 5, Lines 36-37. To obtain a reference signature, Bres notes that each software instruction is associated with a particular opcode. Bres, Page 6, Lines 1-2. Lawful paths are sequences of opcodes determined at the time of compilation. The execution of the program may then be “viewed” by snooping on the bus between memory and CPU. Bres, Page 6, Lines 6-7. The processor control determines the execution signature from the instructions that it sees pass over the bus (“current signature”). At the end of the execution, the current signature is compared against the reference signatures. Bres, Page 6, Lines 12-17.

Thus, Bres, at compile time determines valid opcode sequences and stores these are reference signatures. Bres snoops the bus during execution to determine the execution signature, and validates the execution signature against the reference signature.

In contrast, Applicants claim “inserting directives, corresponding to beacons and beacon functions intended for a pre-processor, into the code of the program.” Bres determines the valid opcode sequences, but does not teach or suggest inserting directives corresponding to beacons and beacon functions.

Applicants’ claims continue by claiming “causing the pre-processor to replace at least one directive by a beacon determined to correspond to the directive, in the code of the program.” In Bres, an opcode sequence is determined at compile time as a reference signature. Since Bres is concerned about the execution of opcode sequences determined during the compilation being matched by execution opcode sequences, there is no need in Bres for inserting directives corresponding to beacons and beacon functions, much less for causing a pre-processor to replace these directives in the code.

In Applicants’ claimed invention, the passage of a beacon causes a storage of information. Since Bres does not teach or suggest inserting beacons, it is not

surprising that Bres does not teach or suggest what to do when encountering a beacon during execution. Thus, Bres fails to teach or suggest “store one or more items of information concerning one or more characteristics of at least one beacon during the passage of said beacon.”

Finally, not having stored information corresponding to the passage of beacons, it is also not surprising that Bres fails to teach or suggest checking the stored information concerning the beacons encountered.

Anticipation under 35 U.S.C. 102(b) requires that each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference, i.e., if any one element is missing from the reference, the reference does not anticipate the claimed invention. Here, at least four elements have been demonstrated as not taught or suggested by Bres. Accordingly, Bres does not anticipate the claimed invention.

Claims 2, 9, 11, and 12 recite analogous limitations to those argued hereinabove in support of Claim 1. These claims are therefore patentable, at least, for the same reasons given in support of Claim 1.

35 USC 103

Claim 7 is rejected under 35 USC 103(a) as being unpatentable over Bres in view of Microsoft Computer Dictionary (MCD). MCD does not provide any of the elements demonstrated above - in the argument in support of Claims 1, 2, 9, 11, and 12 – to not be taught or suggested by Bres. Therefore, the combination of Bres and MCD fails to teach or suggest Claim 2.

Claims 3-8 and 13-16 depend from Claims 2 and 11, respectively, incorporate all the limitations set forth in their respective base claims, provide further unique and non-obvious combinations and are patentable, at least, by virtue of the reasons given in support of the base claims and by virtue of such further combinations.

CONCLUSION

It is submitted that all of the claims now in the application are allowable. Applicants respectfully request consideration of the application and claims and its early allowance. If the Examiner believes that the prosecution of the application would be facilitated by a telephonic interview, Applicants invite the Examiner to contact the undersigned at the number given below.

Applicants respectfully request that a timely Notice of Allowance be issued in this application.

Respectfully submitted,

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